

# Sydney Metro North West

Design and Construction of Surface and Viaduct Civil Works



## **Waste Management and Recycling Plan**

**NWRLSVC-ISJ-SVC-PM-PLN-120213**

**Revision 8.0**

**29 May 2017**

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



## Document Control

A controlled copy of the Waste Management and Recycling Plan will be distributed to the Principal's Representative, Independent Certifier and other relevant stakeholders and will be available to all ISJV employees in soft copy format through the digital document control management system.

The Waste Management and Recycling Plan if printed will be uncontrolled and it will be the responsibility of each user to confirm the currency of the plan through the digital document control management system.

Document distribution will be controlled in accordance with ISJV-SVC-PMS procedure MSP18 Document & Data Control.

## Document Revision History

**Doc No** NWRLSVC-ISJ-SVC-PM-PLN-120213

Revision	Description	Prepared by	Reviewed by	Approved by	Date
1.0	Initial Plan	WSP Environmental	Steve Fermio	Sam Turnbull	31-Mar-14
2.0	Revised in response to TfNSW comments	WSP Environmental	Steve Fermio	Sam Turnbull	3-Jun-14
3.0	Revised in response to TfNSW Comments	Tim Clarke	Steve Fermio	Graeme Tait	16-Dec-14
4.0	Revised in response to TfNSW Comments	Tim Clarke	Steve Fermio	Graeme Tait	30-Jan-15
5.0	Revised in response to TfNSW Comments	Tim Clarke	Steve Fermio	Graeme Tait	27-Feb-15
6.0	6 Monthly Review and update to section 10	Tim Clarke	Tracey Austin	Ian Stuart	29-Sep-15
7.0	General Update	Antony Glambidakis & Jacqueline Burgin	Brad Tucker	George Perdikaris	8 Feb 2017
8.0	Update in response to TfNSW comments	Antony Glambidakis	Brad Tucker	George Perdikaris	29 May 17

Signature

## Contents

Contents .....	3
1 ACRONYMS & GLOSSARY .....	4
2 INTRODUCTION .....	5
2.1 Project Description .....	5
2.1.1 Description of SMNW Project.....	5
Description of the SVC Project works .....	5
2.2 Relationship to Other Plans .....	7
3 GOALS, OUTCOMES, KEY ISSUES .....	9
4 COA REQUIREMENTS .....	12
4.1 Major Civil Construction Works - North West Rail Link (SSI-5100) .....	12
4.2 Stations, Rail Infrastructure and Systems - North West Rail Link (SSI-5414) .....	12
5 ENVIRONMENTAL MITIGATION MEASURES .....	13
5.1 Stage 1 Submissions Report (SSI-5100) .....	13
5.2 Stage 2 Submissions Report (SSI-5414) .....	14
6 DEED REQUIREMENTS .....	16
6.1 SWTC Requirements .....	16
6.2 CEMF Requirements.....	18
7 LICENCE AND PERMIT REQUIREMENTS.....	20
7.1 EPA Licence - 20454 .....	20
8 ISJV MITIGATION MEASURES .....	21
9 MONITORING.....	25
10 TRAINING AND RESOURCES.....	26
11 REFERENCES AND REVISIONS .....	27
12 INCIDENT PLANNING AND RESPONSE .....	29
APPENDICES A-E: ISJV Environmental Procedures.....	30
Appendix A. WI22W-4 Waste Classification & Testing (NSW)	
Appendix B. MSR22W-1 Waste Register	
Appendix C. WI22W-1 Storage, Recycling & Disposal of Waste	
Appendix D. WI22W-3 Waste Tracking Requirements (NSW)	
Appendix E. MSR22X-1 Imported material register	

## 1 ACRONYMS & GLOSSARY

Abbreviation	Definition
<b>CEMF</b>	Construction Environmental Management Framework (Submissions Report, Section 3)
<b>CEMP</b>	Construction Environmental Management Plan
<b>CM</b>	Construction Manager(s) (ISJV)
<b>CoA</b>	Conditions of Approval
<b>DP&amp;E</b>	Department of Planning and Infrastructure
<b>EC</b>	Environmental Coordinator
<b>EIS</b>	Environmental Impact Statement
<b>EM</b>	Environment Manager (ISJV)
<b>EMS</b>	Environmental Management System
<b>EP&amp;A Act</b>	Environmental Planning and Assessment Act 1979
<b>EPA</b>	Environment Protection Authority
<b>EPL</b>	Environment Protection Licence
<b>ER</b>	Independent Environmental Representative
<b>GREP</b>	Government Resource Efficiency Policy
<b>IBC</b>	Intermediate Bulk Container
<b>IC</b>	Independent Certifier
<b>IMP-BMS</b>	Impregilo S.p.A. (Australia) – Business Management System
<b>Incident</b>	Any unplanned or undesired event which results in or has potential to result in injury, ill health, damage, to or loss of property, interruption to operations or environmental impairment. An incident also includes a near miss, breach of procedure, quality failure, injuries to employees, contractors or members of the public and any other statutorily reportable occurrence.
<b>ISJV</b>	Impregilo S.p.A. (Australia) and Salini (Australia) Joint Venture / Principal Contractor
<b>Mitigation Measures</b>	Measures employed to reduce (mitigate) an impact
<b>OEH</b>	Office of Environment and Heritage
<b>PIRMP</b>	Pollution Incident Response Management Procedure
<b>PMS</b>	Project Management System
<b>POEO Act</b>	Protection of the Environment Operations Act 1997
<b>Pollution</b>	The alteration of air, soil, or water as a result of human activities such that it is less suitable for any purpose for which it could be used in its natural state
<b>REMM</b>	Revised Environmental Mitigation Measures (Submissions Report, Section 7)
<b>SE</b>	Site Engineer
<b>SMNW</b>	Sydney Metro North-west
<b>Spoil</b>	All material generated by excavation into the ground.
<b>SS</b>	Site Supervisor
<b>SSI</b>	State Significant Infrastructure
<b>SVC Works</b>	Surface Viaducts and Civil Works, for the North West Rail Link Project
<b>SWTC</b>	Scope of Work and Technical Criteria
<b>TfNSW</b>	Transport for New South Wales
<b>VENM</b>	Virgin Excavated Natural Material is natural material (such as clay, gravel, sand, soil and rock) that: <ul style="list-style-type: none"> <li>(a) Is not mixed with any other type of waste; and</li> <li>(b) Has been excavated from areas of land that are not contaminated.</li> </ul>
<b>WTP</b>	Water Treatment Plant
<b>WARR Act</b>	Waste Avoidance and Resource Recovery Act 2001

## 2 INTRODUCTION

### 2.1 Project Description

#### 2.1.1 Description of SMNW Project

The SMNW project is a key priority for the NSW Government. The SMNW will deliver a new high frequency single deck train system initially operating as a shuttle between Cudgegong Road and Chatswood. The project includes eight new stations, approximately 15.5km of tunnels from Epping to Bella Vista, a 4.5km elevated 'skytrain' (viaduct) between Bella Vista and Rouse Hill, and conversion of the Epping to Chatswood Rail Link to deliver high frequency rapid transit services.

Stations are planned at Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road. Bus, pedestrian, cycling and easy access facilities will be provided at all stations, with approximately 4000 'Park and Ride' spaces spread across five sites.



Figure 1: The North West Rail Link service proposed alignment

#### Description of the SVC Project works

The scope of the SVC Project works consists of the detailed design, construction and handover of the viaducts, bridges and associated civil works required for the SMNW between Bella Vista and Cudgegong Road and includes establishment and reinstatement of worksites, spoil removal and disposal and all required utility relocations and adjustments at construction worksites.

The permanent infrastructure to be delivered includes:

- Approximately 4.5 km of viaduct between Balmoral Road and Rouse Hill Station including crossings over Memorial Avenue, Samantha Riley Drive, Windsor Road, Sanctuary Drive and White Hart Drive
- Bulk earthworks requirements including all cut, fill and embankments between Balmoral Road and Cudgegong Road
- A bridge over Windsor Road / Rouse Hill

- A bridge over Second Ponds Creek
- Allowance for station structures to be incorporated onto the viaduct at the Kellyville and Rouse Hill station sites
- Adjustments to existing infrastructure and roads within the construction site and / or otherwise affected by ISJV activities
- Safe, secure personnel access / egress into site areas including necessary temporary support services and site facilities, with hoardings, fencing and so on around worksites to be left in place upon completion
- Construction traffic and transport management including temporary and permanent traffic management works
- Removal of all temporary work and site facilities not otherwise required for handover to subsequent contractors.

Activities associated with the temporary and SVC Contractor works required in order to complete construction include:

- Construction of a precast facility at Hanson's Mulgrave concrete batching plant
- Construction of temporary T-way car parking at Rouse Hill and Kellyville
- Construction, removal and transportation of the gantry along the SVC construction zone
- Temporary changes to site personnel access/egress
- Signage, fencing and hoarding
- Construction environmental management activities
- Construction traffic management activities
- Interface and communications within SVC Contractor team and across SMNW team
- Stakeholder liaison activities
- Adherence to SMNW protocols and procedures.



## 2.2 Relationship to Other Plans



Figure 2: ISJV CEMP Structure

**Note: The Site Specific Emergency Response Plan is now named the Project Emergency Plan.**

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



Project Management Plan			
Risk Management Plan	Design Plan	Construction Plan	Construction Environmental Management Plan
Technical Risk Management Plan	Engineering and Competency Management Plan	Waste Management and Recycling Plan	inputs to Compliance Tracking Procedure
Safety Assurance Plan	Engineering Management Plan	Earthworks Plan	Construction Compound Ancillary Facilities Management Plan
Assurance Documentation Management Plan	Requirements Management Plan	Spoil Management Plan	Construction Noise and Vibration Management Plan
Project Quality Plan	Competency Management Plan	Visual Amenity Management Plan	Construction Traffic Management Plan Including
Project Records Management Plan	Urban Design & Corridor Landscape Plan	Security Management Plan	Construction Soil and Water Management Plan
Project Purchasing Management Plan	Stormwater and Flooding Management Plan	Monitoring and Protection Plan	Soil Salinity Management Plan
Project Training Management Plan	Services Management Plan	Pollution Incident Response Management Plan	Water Quality Monitoring Program
Workplace Relations Management Plan		Project Emergency Plan	Construction Heritage Management Plan
Project Aboriginal Participation Plan		Community Liaison Implementation Plan	Construction Flora and Fauna Management Plan
Project WHS Management Plan		Stakeholder and Community Involvement Plan	Nest Box Management Plan
Site Specific WHS Management Plan		Business Management Plan	Ecological Monitoring Program
Project WHS Development Plan	Sustainability Plan		Construction Air Quality Plan
	Carbon and Energy Management Plan		
	Asset Management Information Delivery Plan		
	Technical Maintenance Plan	Technical Data Management Plan	
	Interface Management Plan		

**KEY:**

Plan	Sub Plan	This Plan
TfNSW Plan	Sub - Sub Plan	

Figure 3: Waste Management and Recycling Plan within the Project Management Plan



### 3 GOALS, OUTCOMES, KEY ISSUES

<b>Scope</b>	<p>The Waste Management and Recycling Plan has been prepared to detail how waste generation, disposal and recycling impacts will be managed during construction of the Surface Viaducts and Civil (SVC) Works component of the Sydney Metro Northwest project. Reduction strategies and mitigation actions will also be detailed. The scope of this includes construction sites along the 7.5 km above-ground section of the route from Bella Vista to Rouse Hill, which is a combination of viaduct, embankment, and at grade and cutting.</p> <p>This plan is based on the identified environmental aspects and impacts for waste and recycling opportunities from construction activities at each of the SVC construction sites, and identified guidelines and standards to be achieved.</p> <p>This plan forms part of the Impregilo S.p.A. (Australia) and Salini (Australia) Joint Venture (ISJV) Business Management System and should be read in conjunction with plans shown in Figures 2 and 3.</p>
<b>Goals</b>	<p>This Plan has been prepared to address the requirements of relevant Minister for Planning's Conditions of Approvals (CoA), the Revised Environmental Mitigation Measures (REMMs), applicable legislation, the EIS for Stage 1: Major Civil Construction Works (EIS 1), EIS for Stage 2: Stations, Rail Infrastructure and Systems (EIS 2), and contractual requirements including the Scope of Work and Technical Criteria (SWTC).</p> <p>The Waste (CEMF) Standard (NWRL, July 2012 (Section 17.1) requires contractors to:</p> <ol style="list-style-type: none"> <li>Minimise waste throughout the project life-cycle.</li> <li>Waste management strategies will be implemented in accordance with the <i>Waste Avoidance and Resource Recovery Act 2001</i> hierarchy of: <ul style="list-style-type: none"> <li>Avoidance of unnecessary resource consumption.</li> <li>Resource recovery (including reuse, reprocessing, recycling and energy recovery).</li> <li>Disposal.</li> </ul> </li> <li>Targets for the recovery, recycling or reuse of construction waste, and beneficial reuse of spoil will be provided by the Principal Contractor.</li> </ol> <p>Waste management on the SVC Works will be prioritised according to the principles of the resource management hierarchy in the <i>Waste Avoidance and Resource Recovery Act 2001</i> (WARR Act).</p>
<b>Intended Outcomes</b>	<p>Consistent with EIS 1 (Table 19.6) no significant volumes of waste are expected to be generated during the SVC Works. Appendix C provides a summary of the estimated quantities of waste materials that may be generated during construction. These estimates may need to be modified during construction as more information on actual waste quantities generated becomes available.</p> <p>The SVC Works will target the following reuse/recycling outcomes in regards to waste management:</p> <ul style="list-style-type: none"> <li>100% beneficial reuse of usable spoil.</li> <li>90% of inert and non-hazardous construction waste (excluding spoil) is recycled or alternatively, beneficially reused.</li> <li>60% of office waste is recycled or alternatively, beneficially reused.</li> </ul>

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



<b>Key Issues and Sensitive Areas</b>	<p>The key waste streams anticipated to be generated during the SVC works include:</p> <ul style="list-style-type: none"> <li>• Spoil (from cuttings, pile caps and general earthwork activities – as addressed in the Spoil Management Plan).</li> <li>• Wastewater (from construction operations – as addressed in the Construction Soil and Water Management Plan).</li> <li>• Demolition waste (from removal of residential and commercial buildings including concrete, bricks, tiles, timber (untreated, treated), metals, plasterboard, carpets, electrical and plumbing fittings and furnishings (doors, windows).</li> <li>• Any hazardous waste (including asbestos) that may be encountered.</li> <li>• Green waste (from the clearing and grubbing of vegetation).</li> <li>• General construction waste, such as: <ul style="list-style-type: none"> <li>▪ Timber formwork, scrap metal, steel, concrete, plasterboards and packaging material.</li> <li>▪ Concrete waste from the batching process.</li> </ul> </li> <li>• General waste from office and crib rooms, such as: <ul style="list-style-type: none"> <li>▪ Putrescibles, paper, cardboard, plastics, glass and printer cartridges.</li> </ul> </li> <li>• Waste from operation and maintenance of vehicles and machinery such as: <ul style="list-style-type: none"> <li>▪ Adhesives, lubricants, waste fuels and oils, engine coolant, batteries, hoses and tyres.</li> </ul> </li> <li>• Wastewater from other sources including dust suppression and washdown and sewerage/greywater from construction compounds.</li> </ul> <p>Key sensitive areas for waste and recycling activities include:</p> <ul style="list-style-type: none"> <li>• Entry and exit point for trucks carrying spoil for off-site disposal.</li> <li>• Construction Compound general waste storage areas</li> <li>• Proximity to environmental values (eg White Hart Inn, riparian areas)</li> <li>• Management of building and demolition waste from for Knights Syndicate Recycling Yard at 104 Schofield Road, Rouse Hill NSW (this is subject to ongoing investigations and discussions between TfNSW and ISJV).</li> </ul>
<b>Statutory Requirements</b>	<p>The key legislation relevant to waste management and recycling includes:</p> <ul style="list-style-type: none"> <li>• <i>Environmental Planning and Assessment Act 1979</i></li> <li>• <i>Protection of the Environment Operations Act 1997</i></li> <li>• <i>Protection of the Environment Operations (Waste) Regulation 2005</i></li> <li>• <i>Waste Avoidance and Resource Recovery Act 2001</i></li> </ul> <p>Project compliance requirements include:</p> <ul style="list-style-type: none"> <li>• Relevant planning requirements from the Conditions of Approval (CoA), Scope of Work and Technical Criteria (SWTC), and Construction</li> </ul>

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



	<p>Environmental Framework (CEMF) are summarised in Sections 4 – 5 of this plan.</p> <ul style="list-style-type: none"> <li>Additional waste management and recycling requirements from the Project Deed, Project Planning Approval and Environmental Management Measures are included in Section 6 of this plan.</li> </ul> <p>Additional guidelines and standards relating to the management of waste and recycling include:</p> <ul style="list-style-type: none"> <li><i>Waste Classification Guidelines, Part 1: Classifying Waste</i> (DECCW December 2009)</li> <li><i>Waste Classification Guidelines, Part 4: Acid Sulfate Soils</i> (DECCW August 2009)</li> <li><i>NSW Government's Waste Reduction and Purchasing Policy</i></li> <li><i>Environmental Best Practice Guidelines for Concreting Contractors</i> (Department of Environment and Conservation, 2004)</li> <li><i>Local government guidelines for waste / recycling as appropriate</i></li> <li><i>Australian Dangerous Goods Code 7th Edition (ADG7)</i> (National Transport Commission, October 2011).</li> </ul>
<b>Relationship to Other Plans</b>	<p>This Plan is a sub plan of the Construction Environmental Management Plan (NWRL-ISJ-SVC-PM-PLN-120200) and has the following interrelationships with other management plans:</p> <ul style="list-style-type: none"> <li>The Construction Soil and Water Management Plan (NWRL-ISJ-SVC-PM-PLN-120203) addressing the erosion and sedimentation impacts associated with waste storage and handling, procedures for minimising water usage and managing waste water and any contaminated waste including Acid Sulfate Soils (ASS) encountered during the SVC Works.</li> <li>The Spoil Management Plan (NWRL-ISJ-SVC-PM-PLN-120213) providing details for the management of spoil from the SVC Works.</li> <li>The Flora and Fauna Management Plan (NWRL-ISJ-SVC-PM-PLN-120208) addressing reuse and recycling of green waste from vegetation clearing operations.</li> <li>The Construction Traffic Management Plan (NWRL-ISJ-SVC-PM-PLN-120202) addressing traffic and transportation impacts of waste transport and disposal.</li> <li>The Visual Amenity Management Plan (NWRL-ISJ-SVC-PM-PLN-120214) addressing potential aesthetic impacts of onsite waste management.</li> <li>The Sustainability Plan (NWRL-SVC-ISJ-PM-PLN-120300) identifying waste targets and minimisation and reuse as a key measure of supporting sustainable outcomes for the SVC Project delivery.</li> <li>The Carbon and Energy Management Plan (NWRL-SVC-ISJ-SVC-PM-PLN-120301) describes waste minimisation and material selection strategies to minimise the embodied carbon and lifecycle impacts of waste and materials associated with construction.</li> </ul>
<b>Environmental Aspects &amp; Impacts</b>	<p>Refer to environmental aspects and impacts identified in CEMP Appendix 5.</p>
<b>Licence &amp; Permit Requirements</b>	<ul style="list-style-type: none"> <li>The requirements of the Environmental Protection Licence (EPL) for SVC works are included in Section 7 of this plan. These requirements will be updated with each relevant licence variation issued by EPA, where relevant.</li> <li>There are no current permit requirements.</li> </ul>

## 4 COA REQUIREMENTS

### 4.1 Major Civil Construction Works - North West Rail Link (SSI-5100)

No.	Ref.	Relevant Requirement	Reference
1.	C22	Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the <i>Protection of the Environment Operations Act 1997</i> , if such a licence is required in relation to that waste.	This Plan, Section 7, WR1

### 4.2 Stations, Rail Infrastructure and Systems - North West Rail Link (SSI-5414)

No.	Ref.	Relevant Requirement	Reference
2.	C46	Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the <i>Protection of the Environment Operations Act 1997</i> , if such a licence is required in relation to that waste.	This Plan, Section 7, WR1

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



## 5 ENVIRONMENTAL MITIGATION MEASURES

### 5.1 Stage 1 Submissions Report (SSI-5100)

No.	Original Ref.	Relevant Requirement	Reference
3.	W1	All waste would be assessed, classified, managed and disposed of in accordance with the <i>Waste Classification Guidelines</i> (DECC 2008).	This Plan, Section 8, WR2
4.	W2	All waste materials removed from the sites would only be directed to a waste management facility lawfully permitted to accept the materials.	This Plan, Section 8, WR2
5.	W3	Excavated material and spoil would be beneficially reused on the project site or other sites, where feasible and reasonable, in accordance with the spoil reuse hierarchy.	This Plan, Section 8, WR3
6.	W4	Appropriate storage, treatment and disposal procedures would be implemented for any contaminated spoil.	This Plan, Section 8, WR4
7.	W5	Cleared site vegetation would be mulched for reuse in rehabilitation and landscaping works. Topsoil generated during site preparation activities would be stockpiled for reuse in landscaping activities.	This Plan, Section 8, WR5
8.	W6	Initial and ongoing education would be provided to staff and sub-contractors regarding the importance of appropriately managing waste.	This Plan, Sections 8 & 10
9.	W7	Recyclable wastes, including paper at site offices, would be stored separately from other wastes. Storage facilities would be secure and recyclables collected on a regular basis.	This Plan, Section 8, WR7
10.	W8	Reusable materials would be stored separately, in secure facilities.	This Plan, Section 8, WR7
11.	W9	Worksites would be free of litter and good housekeeping would be maintained.	This Plan, Section 8, WR9
12.	W10	Vermin proof bins would be utilised onsite.	This Plan, Section 8, WR9
13.	W11	Waste oil, other liquid wastes and spillages would be collected and stored in bunded areas.	This Plan, Section 8, WR11
14.	W12	Trucks transporting wastes off site would be appropriately licensed to carry the materials to appropriately licensed waste facilities.	This Plan, Section 8, WR15
15.	W13	Waste truck loads would be covered, and tailgates secured prior to trucks leaving the worksite.	This Plan, Section 8,

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



No.	Original Ref.	Relevant Requirement	Reference
			WR15
16.	W14	Centralised reporting and auditing of waste volumes and disposal destinations would be employed.	This Plan, Section 8, WR18
17.	W15	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.	This Plan, Section 8, WR13
18.	W16	Materials such as (noise hoarding, site fencing, and so on) would be reused or shared, between sites and between construction contractors where feasible and reasonable.	This Plan, Section 8, WR14

## 5.2 Stage 2 Submissions Report (SSI-5414)

No.	Original Ref.	Relevant Requirement	Reference
19.	OpW1	Develop an Operational Environmental Management Plan including a section on Operational Waste and Resource Recovery Management. This would detail opportunities for avoiding waste generation and responsible disposal methods for different waste streams.	Not applicable to SVC works
20.	OpW2	Design innovation during the detailed design stage of the SMNW would provide opportunities to reduce the amount of resources required for operation.	This Plan, Section 8, WR16
21.	W1	All waste would be assessed, classified, managed and disposed of in accordance with the Waste Classification Guidelines (DECC, 2008).	This Plan, Section 8, WR2
22.	W2	All waste materials removed from the sites would only be directed to a waste management facility lawfully permitted to accept the materials.	This Plan, Section 8, WR2
23.	W3	Excavated material and spoil would be beneficially reused on the project site or other sites, where feasible and reasonable, in accordance with the spoil use hierarchy.	This Plan, Section 8, WR3
24.	W4	Appropriate storage, treatment and disposal procedures would be implemented for any contaminated spoil.	This Plan, Section 8, WR4
25.	W5	Cleared site vegetation would be mulched for reuse in rehabilitation and landscaping works. Topsoil generated during site preparation activities would be stockpiled for reuse in landscaping activities.	This Plan, Section 8, WR5
26.	W6	Initial and ongoing education would be provided to staff and sub-contractors regarding the importance of appropriately managing waste.	This Plan, Sections 8 & 10
27.	W7	Recyclable wastes, including paper at site offices, would be stored separately from other wastes. Storage facilities would be secure and recyclables collected on a regular basis.	This Plan, Section 8, WR7
28.	W8	Reusable materials would be stored separately, in secure facilities.	This Plan, Section 8,



# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



No.	Original Ref.	Relevant Requirement	Reference
			WR7
29.	W9	Worksites would be free of litter and good housekeeping would be maintained.	This Plan, Section 8, WR9
30.	W10	Vermin proof bins would be utilised onsite.	This Plan, Section 8, WR9
31.	W11	Waste oil, other liquid wastes and spillages would be collected and stored in bunded areas.	This Plan, Section 8, WR10
32.	W13	Waste truck loads would be covered, and tailgates secured prior to trucks leaving the worksite.	This Plan, Section 8, WR15
33.	W14	Centralised reporting and auditing of waste volumes and disposal destinations would be employed.	This Plan, Section 8, WR18
34.	W15	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.	This Plan, Section 8, WR13
35.	W16	Materials such as (noise hoarding, site fencing, and so on) would be reused or shared, between sites and between construction contractors where feasible and reasonable.	This Plan, Section 8, WR14

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



## 6 DEED REQUIREMENTS

### 6.1 SWTC Requirements

No.	Original Ref.	Relevant Requirement	Reference
36.	SWTC – App 10 10.9.1 (a)	The SVC Contractor must identify and implement waste minimisation initiatives and material selection strategies to minimise the embodied carbon and lifecycle impacts of waste and materials associated with the construction of the Project Works and Temporary Works.	This Plan, Section 8, WR13, WR16 Carbon and Energy Management Plan Sustainability Plan Section 4.6 Table 4
37.	SWTC – App 10 10.9.1 (b)	The SVC Contractor must reduce materials use through materials avoidance and reduction strategies and minimise construction materials volumes through design refinement, construction planning and construction methods.	This Plan, Section 8, WR13, 14 & 16 Carbon and Energy Management Plan Sustainability Plan section 4.6 NWRL-SVC-ISM-BVR-CS-DRT-010200, Design Lot 01-1 section 4 & Appendix M
38.	SWTC – App 10 10.9.1 (c)	The SVC Contractor must minimize embodied carbon and lifecycle impacts by using, where practicable: (i) Blended cement that contains waste industrial products such as fly ash and ground granulated blast furnace slag (ii) Low carbon concrete (iii) Recycled steel, including in concrete reinforcing (iv) Spoil generated on site	Carbon and Energy Management Plan Sustainability Plan Appendix 4 This Plan, Section 8, WR3
39.	SWTC – App 10 10.9.1 (h)	The SVC Contractor must use reusable formwork and reuse construction and demolition waste where practicable.	This Plan, Section 8, WR17
40.	SWTC – App 10	The SVC Contractor must avoid the production of hazardous waste.	This Plan, Section 8, WR11

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



	10.9.1 (k)		
41.	SWTC – App 10 10.9.1 (o)	The SVC Contractor must ensure that at least 90% of inert and non-hazardous construction waste, excluding spoil, and at least 60% of office waste is recycled or alternatively beneficially reused.	This Plan, Section 8, WR17
42.	SWTC – App 10 10.9.1 (p)	The SVC Contractor must negotiate and implement packaging take-back arrangements with suppliers where practicable.	This Plan, Section 8, WR13
43.	SWTC – App 10 10.9.1 (r)	The SVC Contractor must provide recycling facilities within the Construction Site where practicable.	This Plan, Section 8, WR8
44.	SWTC – App 10 (10.9.1 (s))	The SVC Contractor must mulch all cleared vegetation (excluding weeds). The mulch must be stored onsite for future reuse or sent to an off-site compost facility.	This Plan, Section 8, WR5
45.	SWTC - App 24 24.4 (l)	The Construction Environmental Management Plan must also include as sub-plans, a separate Spoil Management Plan; Visual Amenity Management Plan; Carbon and Energy Management Plan and Waste Management and Recycling Plan.	This Plan, the other plans have been prepared separately but form part of the CEMP
46.	SWTC - App 24 24.4 (p)	The Waste Management and Recycling Plan must identify quantities of waste that will be recycled, beneficially re-used or disposed of - demonstrating how quantities have been maximised.	This Plan, Appendix H
47.	SWTC – App 24 24.5 (f) , No. 4	Percentage of construction waste to be beneficially reused or recycled	This Plan, Section 8, WR17

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



## 6.2 CEMF Requirements

No.	Original Ref.	Relevant Requirement	Reference
48.	17.1	<b>Waste Objectives</b> The following waste objectives will apply to the construction of the project: <ol style="list-style-type: none"> <li>Minimise waste throughout the project life-cycle.</li> <li>Waste management strategies will be implemented in accordance with the <i>Waste Avoidance and Resource Recovery Act 2001</i> management hierarchy as follows:                             <ul style="list-style-type: none"> <li>Avoidance of unnecessary resource consumption.</li> <li>Resource recovery (including reuse, reprocessing, recycling and energy recovery).</li> <li>Disposal.</li> </ul> </li> <li>Targets for the recovery, recycling or reuse of construction waste, and beneficial reuse of spoil will be provided by the Principal Contractor.</li> </ol>	This Plan, Section 8, WR6
49.	17.2 17.2 (a)	<b>Waste Implementation</b> SMNW Principal Contractors will develop and implement a Waste Management and Recycling Plan which will include as a minimum: <ol style="list-style-type: none"> <li>The waste management and recycling mitigation measures as detailed in the environmental approval documentation.</li> <li>The responsibilities of key project personnel with respect to the implementation of the plan.</li> <li>Waste management and recycling monitoring requirements.</li> <li>Compliance record generation and management.</li> </ol>	This Plan
50.	17.2 (b)	Principal Contractors will undertake the following waste monitoring as a minimum: <ol style="list-style-type: none"> <li>Weekly inspections will include checking on the waste storage facilities on site.</li> <li>All waste removed from the site will be appropriately tracked from 'cradle to grave' using waste tracking dockets.</li> </ol>	This Plan, Section 8, WR18, Appendix 9 CEMP
51.	17.2 (c)	Principal Contractors will report all necessary waste and purchasing information to TfNSW as required for TfNSW to fulfil their Government Resource Efficiency Policy (GREP) reporting requirements.	This Plan, Section 8, WR19
52.	17.2 (d)	Compliance records will be retained by the Principal Contractors in relation to waste management including records of inspections and waste dockets for all waste removed from the site.	This Plan, Section 8, WR12, 18
53.	17.3	<b>Waste Mitigation</b> Examples of waste management and recycling mitigation measures include: <ul style="list-style-type: none"> <li>All waste will be assessed, classified, managed and disposed of in accordance with the Waste Classification Guidelines (DECC, 2008).</li> <li>All waste materials removed from the sites will be directed to an appropriately licensed waste management facility.</li> <li>The use of raw materials (noise hoarding, site fencing, etc...) will be reused or shared, between sites and between</li> </ul>	This Plan, Section 8, various

## Waste Management and Recycling Plan

Surface and Viaduct Civil Works



No.	Original Ref.	Relevant Requirement	Reference
		<ul style="list-style-type: none"><li>construction contractors where feasible and reasonable.</li><li>Recyclable wastes, including paper at site offices, will be stored separately from other wastes.</li></ul>	

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



## 7 LICENCE AND PERMIT REQUIREMENTS

### 7.1 EPA Licence - 20454

No.	Original Ref.	Relevant Requirement	Reference
54.	O5	Waste Management	-
55.	O5.1	The licensee must assess, classify and manage any waste generated at the premises in accordance with the Waste Classification Guidelines Part 1 : Classifying Waste, April 2008 (Waste Guidelines) prior to dispatching the waste offsite.	This Plan, section 8, WR2
56.	O5.2	The licensee must not cause, permit or allow any waste generated:  (a) outside the premises to be received at the premises except for materials that meet the EPA's Resource Recovery Exemptions for engineered fill purposes.  (b) at the premises to be disposed of at the premises, except as permitted in Condition O5.3.	This plan Section 8, WR1
57.	O5.3	Excavated material suitable for re-use within the premises, may be transported from one part of the premises or the Sydney Trains rail corridor or Sydney Trains recycling facility to another part by road in accordance with Condition O5.4.	This Plan Section 8, WR15
58.	O5.4	The licensee must ensure that:  (a) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to minimise any spill or escape of any dust, waste, or spoil from the vehicle or trailer;  (b) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the premises, is removed to the greatest extent practicable before the vehicle, trailer or motorised plant leaves the premises; and  (c) road surfaces subject to the tracking of material by vehicles leaving the premises are effectively cleaned at the end of each work day.	This Plan Section 8, WR15



# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



## 8 ISJV MITIGATION MEASURES

ISJV have looked at the Approval Conditions and have generated the following ISJV Mitigation Measures.

Ref.	Mitigation Measure	Design	Construction	Relevant Location / Activity	Relevant Approval Conditions	Responsibility	Timing
<b>General Construction</b>							
WR1.	Imported waste received for the SVC construction works will only be permitted in accordance with the EPL.		■	Entire Project	SSI-5100, CoA, C22 SSI-5414, CoA, C46	EM, EC	Throughout construction
WR2.	All waste to be disposed offsite will be in accordance with ISJV Management System Procedures (Appendices A-E): <ul style="list-style-type: none"> <li>WI22W-4 Waste Classification &amp; Testing (NSW)</li> <li>MSR22W-1 Waste Register</li> <li>WI22W-3 Waste Tracking Requirements (NSW)</li> </ul>		■	Entire Project	SSI-5100, W1 SSI-5414, W1 SSI-5100, W2 SSI-5414, W2	EM, EC	Throughout construction
WR3.	All excavated material and uncontaminated spoil would be beneficially reused on the project site, where feasible and reasonable, or other sites lawfully permitted to receive such material.  Where immediate re-use is not possible, spoil suitable for later reuse will be stockpiled.  All spoil will be managed in accordance with the <i>Spoil Management Plan</i> (NWRL-ISJ-SVC-PM-PLN-120213).		■	Entire Project	SSI-5100, W3 SSI-5414, W3	EM, EC	Throughout construction
WR4.	Any contaminated material will be managed in accordance with the <i>Contaminated Materials Contingency Plan</i> (Appendix 5) of the Construction Soil and Water Management Plan		■	Entire Project	SSI-5100, W4 SSI-5414, W4	EM, EC	Throughout construction
WR5.	Cleared site vegetation will be mulched for reuse in rehabilitation or ERSED controls wherever possible. Weed species will be separated from the vegetation to be mulched and disposed of separately.		■	Entire Project	SSI-5100, W5 SSI-5414, W5 SWTC, App 10 (10.9.1 (s))	EM, EC	Throughout construction
WR6.	Waste management hierarchy to be implemented during construction: <b>IND</b>		■	Entire Project	SWTC - App 10	EM	Procurement

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



Ref.	Mitigation Measure	Design	Construction	Relevant Location / Activity	Relevant Approval Conditions	Responsibility	Timing
	<ul style="list-style-type: none"> <li>• Avoid</li> <li>• Reduce</li> <li>• Reuse</li> <li>• Recycle</li> <li>• Recover</li> <li>• Treat</li> <li>• Dispose.</li> </ul>				10.9.1 (a)	Procurement Manager	
WR7.	Waste sorting facilities will be provided at the main site compounds to enable waste segregation for reuse. Recyclable waste, including paper at site offices, will be stored securely and separately from other wastes and collected on a regular basis.		■	Entire Project	SSI-5100, W7 SSI-5414, W7 SWTC App 10 (10.9.1 (r))	EM, EC	Throughout construction
WR8.	Reusable materials would be stored separately, in secure facilities. <b>IND</b>		■	Entire Project	SSI-5100, W8 SSI-5414, W8	EM, EC	Throughout construction
WR9.	Good housekeeping will be maintained at all worksites, so that they are free of litter, and vermin proof bins will be used where putrescible waste is stored. <b>IND</b>		■	Entire Project	SSI-5100, W10 SSI-5414, W10	EM, EC	Throughout construction
WR10.	Any waste oil stored on site will be located in a bunded area. <b>IND</b>		■	Entire Project	SSI-5100, W11 SSI-5414, W11	EM, EC	Throughout construction
WR11.	Production of hazardous waste must be avoided. Where waste produced from the SVC Works cannot be reused on site, it will be transported from site using an appropriately licensed waste management contractor. Refer to ISJV Management System Procedures (Appendices A-E): <ul style="list-style-type: none"> <li>• <i>WI22W-4 Waste Classification &amp; Testing (NSW)</i></li> <li>• <i>WI22W-1 Storage, Recycling &amp; Disposal of Waste</i></li> </ul>		■	Entire Project	SWTC App 10, (10.9.1 (k)) SSI-5100, W12 SSI-5414, W12	EM, EC	Throughout construction
WR12.	Monthly Environmental Reports will be prepared to detail waste generation, reuse and disposal volumes (onsite and offsite) as well as disposal locations.		■	Entire Project	SSI-5100, W13 SSI-5414, W13	EM, EC	Throughout construction
WR13.	ISJV will negotiate packaging take-back agreements with suppliers and include this as a criterion for consideration during selection suppliers, where		■	Entire Project	SSI-5100, W14	Procurement Manager	Procurement & Throughout

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



Ref.	Mitigation Measure	Design	Construction	Relevant Location / Activity	Relevant Approval Conditions	Responsibility	Timing
	<p>practicable. Minimisation of packing materials and bulk purchases will also be undertaken preferentially to further minimise waste.</p> <p>Reusability and capacity for recycling will be considered in the selection of construction materials and other products purchased for the SVC Works.</p> <p>Construction waste will be minimised by accurately calculating materials brought to the site and limiting materials packaging.</p>				SSI-5414, W14 SWTC App 10, 10.9.1 (b), & 10.9.1 (p)		construction
WR14.	<p>ISJV will procure reusable formwork and reuse construction and demolition waste where practicable.</p> <p>Materials (such as noise hoarding, site fencing, and so on) will be reused or shared, between sites and between construction contractors where feasible and reasonable.</p>		■	Entire Project	SSI-5100, W15 SSI-5414, W15 SWTC App 10, 10.9.1 (h)	Procurement Manager	Throughout construction
WR15.	Where waste produced from the SVC Works cannot be reused on site, it will be transported from site using an appropriately licensed waste management contractor. All waste truck loads will be covered, and tailgates secured prior to trucks leaving the worksite.		■	Entire Project	SSI-5100, W16 SSI-5414, W16	EM, EC	Throughout construction
WR16.	Designers of the SVC project (SMEC) will consider opportunities to reduce the amount of resources required to construct, operate and maintain the Works throughout its lifespan, This will include reference to the reporting requirements of the <i>OEH 2011, GREP Reporting Guidelines</i> –.		■	Entire Project	SSI-5414, OpW2	Design Manager	Design
WR17.	<p>The SVC Work minimum targets in regards to waste management are:</p> <ul style="list-style-type: none"> <li>100% beneficial reuse of usable spoil.</li> <li>90% of inert and non-hazardous construction waste, excluding spoil is recycled or alternatively beneficially reused.</li> <li>60% of office waste is recycled or alternatively beneficially reused.</li> </ul>		■	Entire Project	SWTC - App 24 24.4 (l) SWTC – App 24.5 (f), No. 4	EM, EC	Procurement & Throughout construction
WR18.	<p>Waste removed from the worksite will be appropriately tracked using waste tracking dockets where required.</p> <p>Refer to ISJV Management System Procedures (Appendices A-E):</p> <ul style="list-style-type: none"> <li>WI22W-4 Waste Classification &amp; Testing (NSW)</li> <li>MSR22W-1 Waste Register</li> <li>WI22W-3 Waste Tracking Requirements (NSW)</li> </ul>		■	Entire Project	CEMF, 17.2 (b)	EM, EC	Throughout construction

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



Ref.	Mitigation Measure	Design	Construction	Relevant Location / Activity	Relevant Approval Conditions	Responsibility	Timing
WR19.	ISJV will supply information to TfNSW in their requested format to allow reporting on total quantities of waste being generated and recycled in accordance with the NSW Government <i>GREP</i> requirements.		■	Entire Project	CEMF, 17.2 (c)	EM, EC	Throughout construction

**Responsibility Key:** EM – Environment Manager, EC – Environment Co-ordinator, CM – Construction Manager, SS – Site Supervisor

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



## 9 MONITORING

Item	Frequency	Reporting	Responsibility
<b>Inspections</b> Weekly inspection of housekeeping and onsite spoil management controls as part of the joint environment inspections.	Weekly	ISJVSVC-PMS MSF43-2 Environmental Inspection Checklist	EC
<b>Waste Reporting</b> Environmental Reports will be prepared to detail waste generation, reuse and disposal volumes (onsite and offsite) as well as disposal locations.	Monthly	Monthly Environmental Reports	EM
<b>Tracking</b> Waste removed from the worksite will be appropriately tracked from 'cradle to grave' using waste tracking dockets where required.	Continuous	Tracking Dockets	EM
<b>Auditing</b> Carry out waste management and energy use audits to assess extent of waste hierarchy and identify/address energy wastage. Undertaken during the construction stage of the Project and will be used to assess compliance with waste targets/performance criteria.	Six monthly	Reporting should be in the format prescribed in the <i>Waste Reduction and Purchasing Policy Reporting Guidelines 2011</i>	EM
<b>Target Reviews</b> Review types and quantities of wastes generated, set a baseline and set targets for reduction of wastes to landfill as a percentage of all wastes.	Annually	Quarterly Environmental Report (4 per year)	EM
<b>GREP</b> ISJV will supply information to TfNSW in their requested format to allow reporting on total quantities of wastes being generated and recycled in accordance with the <i>GREP</i> requirements. Note: Reporting will be undertaken with a one month lag, to ensure the accuracy of data.	As requested	Reporting should be in the format prescribed in the <i>Waste Reduction and Purchasing Policy Reporting Guidelines 2011</i>	EM
<b>NGERS</b> Reporting of waste and energy will be undertaken in accordance with legislative requirements under the <i>National Greenhouse and Energy Reporting Act 2007</i> .	Continuous	Monthly Environmental Reports	EM
<b>Register</b> Maintained Waste Management Register (refer to ISJV Management System - MSR22W-1 Waste Register) of all waste collected for disposal and/or recycling.	Monthly	Monthly Environmental Reports	EM

## 10 TRAINING AND RESOURCES

### Training

#### **Project Inductions for all Staff and Subcontractors:**

Inductions are required to address the matters identified by the term **IND** ("Induction") in the mitigation measures (section 8). These include:

- Waste classification and minimization/re-use initiatives.
- Waste segregation and disposal requirements identified
- Waste Register and Tracking Requirements.

Responsibility: EM and EC.

Recording: The Safety Manager will maintain a register of all project site inductions.

#### **Toolbox talks:**

- Tool box talks will be undertaken to reinforce and reiterate information from inductions and training and where procedures are amended or new procedures are introduced. Toolbox talks will also identify any site specific requirements on the day that vary from the standard processes

Responsibility: EM and EC.

Recording: The Environmental Manager will maintain a register of environmental training carried out.

#### **Pre-start meetings:**

- Pre-start meetings will be undertaken to reinforce procedures are amended or new procedures are introduced.

Responsibility: EM and EC.

Recording: The Environmental Manager will maintain a register of pre-start meetings carried out.

#### **Environmental awareness training for specific issues:**

- Hazardous waste, contaminated land waste, record keeping, maintenance of Waste Material Tracking Register, Storage of chemicals and good housekeeping.

Responsibility: EM and EC.

Recording: The Training Co-ordinator will maintain a register of environmental awareness training carried out.

### Resources

- Environmental Coordinators and Environmental Manager.
- Specialist Consultants for waste classification.
- Plant and machinery to manage and dispose of waste streams generated.
- Site compound signage for waste type and storage areas.
- Subcontracted general waste removal contractors.



## 11 REFERENCES AND REVISIONS

Related Documents
ISJV Management System - MSP22W Waste Management
ISJV Management System - MSR22W-1 Waste Register
ISJV Management System - WI22W-1 Storage, Recycling & Disposal of Waste
ISJV Management System - WI22W-3 Waste Tracking Requirements (NSW)
ISJV Management System - WI22W-4 Waste Classification & Testing (NSW)
SSI-5100 North West Rail Link: <i>Environmental Impact Statement – Stage 1 – Major civil Construction Works</i> (26 March 2012)
SSI-5100 North West Rail Link: <i>Submissions Report, Stage 1 - Major civil Construction Works, Incorporating Preferred Infrastructure Report</i> (July 2012)
SSI-5414 North West Rail Link: <i>Environmental Impact Statement – Stage 2- Stations, Rail Infrastructure and Systems</i>
SSI-5414 North West Rail Link: <i>Submissions Report, Stage 2 - Major civil Construction Works</i>
North West Rail Link, SVC Project Deed, Design and Construction of Surface and Viaduct Civil Works. Exhibit A, Scope of Works and Technical Criteria, Appendix 24 – Project Plan Requirements
References
<ul style="list-style-type: none"> <li>• ISO AS/NZS 14001:2004 Clause 4.4.6.</li> <li>• <i>Protection of the Environment Operations Act (NSW) 1997</i></li> <li>• <i>Protection of the Environment Operations (Waste) Regulation (NSW) 2005.</i></li> <li>• <i>DECCW (NSW) Guidelines on Resource Recovery Exemptions (Land Application of Waste Materials as Fill) 2011.</i></li> <li>• <i>Waste Classification Guidelines, Part 1: Classifying Waste (DECCW December 2009)</i></li> <li>• <i>Waste Classification Guidelines, Part 4: Acid Sulfate Soils (DECCW August 2009)</i></li> <li>• <i>NSW Government's Waste Reduction and Purchasing Policy (GREP)</i></li> <li>• <i>Environmental Best Practice Guidelines for Concreting Contractors (Department of Environment and Conservation, 2004)</i></li> <li>• Local government guidelines for waste / recycling as appropriate</li> <li>• <i>Australian Dangerous Goods Code 7th Edition (ADG7) (National Transport Commission, October 2011)</i></li> <li>• <i>OEH 2011, GREP Reporting Guidelines – NSW Government Sustainability Policy</i></li> <li>• Project/Contract specifications.</li> </ul>

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



### Revision, Control & Amendment

Revisions to this plan will be made as required and in accordance with MSP18 'Document and Data Control'. The Environmental Manager will review outstanding issues and comments provided by the ER, IC, Principal's Representative or authorities and address these either:

- In time to be endorsed by the IC and reviewed by the Principal's Representative prior to commencement of any related activities or work; or
- At the next Management Review of the plan as outlined in the Project Management Plan.

## 12 INCIDENT PLANNING AND RESPONSE

Incident Planning & Response			
<p>Incidents involving waste management will be immediately reported to the Site Supervisor, Environmental Coordinator and Environmental Manager.</p> <p>Response to emergency situations will be undertaken in accordance with the Project Emergency Response Plan. An emergency situation is an event that could present significant risk to the environment, personnel or the community, as determined by the Site Supervisor, Environmental Coordinator and Environmental Manager.</p> <p>Environmental incidents will be reported immediately to a Site Supervisor who will contact either the Project Manager, or Environmental Manager. Environmental incidents will be managed and investigated in accordance with the Pollution Incident Response Management Plan (PIRMP) for the Project and reported to EPA by the Environment Manager in accordance with the <i>Protection of the Environment Operations Act 1997</i> and the PIRMP.</p> <p>Potential incidents of a waste related nature that could arise during the works include the following:</p>			
No.	Situation	Response	Responsibility
1	Spillage of special, hazardous, liquid or restricted wastes during transport within and to/from site that may affect the local environment.	<ul style="list-style-type: none"> <li>Stop work and ensure safety of site personnel.</li> <li>Immediately inform the Environmental Manager.</li> <li>Assess zone of contamination, potential nearby receptors.</li> <li>Barricade area and limit spatial spread of contamination/waste materials where safe to do so.</li> </ul> <p>Follow ISJV Management System Procedures:</p> <ul style="list-style-type: none"> <li>MSP22X Contaminated Land</li> <li>MSF22X-1 Contamination Stop Work-Permission to Proceed Form</li> </ul>	SS / CM / EM/PM
2	Incorrect/illegal disposal of waste contravening the requirements of the POEO Act.	Classify all waste in accordance with <i>Waste Classification Guidelines, Part 1: Classifying Waste (DECCW December 2009)</i> and ISJV Management System - WI22W-4 Waste Classification & Testing (NSW). Recovery of materials from point of disposal. Report to EPA in accordance with EPL requirements.	EC / EM/PM
3	Unanticipated discovery of contaminated soil, water or other material requiring handling and off-site disposal.	Follow <i>Contaminated Materials Contingency Plan</i> (Appendix 5 of Construction Soil and Water Management Plan)	SS / CM / EC / EM/PM
<p><b>Responsibility Key:</b> EM – Environment Manager, CM – Construction Manager, CSM – Community and Stakeholder Manager, EC – Environment Co-ordinator, SS - Site Supervisor, PM – Project Manager</p>			

## APPENDICES A-E: ISJV Environmental Procedures

## Appendix A. **WI22W-4 Waste Classification & Testing (NSW)**

### 1.0 Waste Classes

#### 1.1 Special Waste

'Special waste' is a class of waste that has unique regulatory requirements. The potential environmental impacts of special waste need to be managed to minimise the risk of harm to the environment and human health.

Special waste means any of the following:

- Clinical and related waste
- Asbestos waste
- Waste tyres.

#### 1.2 Liquid Waste

Liquid waste means any waste that:

- Has an angle of repose of less than 5 degrees above horizontal, or
- Becomes free-flowing at or below 60 degrees Celsius or when it is transported, or
- Is generally not capable of being picked up by a spade or shovel.

#### 1.3 Hazardous Waste

The following wastes have been pre-classified by the EPA NSW as 'hazardous waste':

- Containers, having previously contained a substance of Class 1, 3, 4, 5 or 8 within the meaning of the *Transport of Dangerous Goods Code*, or a substance to which Division 6.1 of the *Transport of Dangerous Goods Code* applies, from which residues have not been removed by washing or vacuuming
- Coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising of more than 1% (by weight) of coal tar or coal tar pitch waste
- Lead-acid or nickel-cadmium batteries (being waste generated or separately collected by activities carried out for business, commercial or community services purposes)
- Lead paint waste arising otherwise than from residential premises or educational or child care institutions
- Any mixture of the wastes referred to above.

#### 1.4 Restricted Solid Waste

Currently, no wastes have been pre-classified by the EPA as 'restricted solid waste'.

Restricted solid waste therefore only includes wastes assessed and classified as such in accordance with the procedures in Step 5 below.

#### 1.5 General Solid Waste (putrescible)

- Household waste that contains putrescible organics
- Waste from litter bins collected by or on behalf of local councils
- Manure and night soil
- Disposable nappies, incontinence pads or sanitary napkins
- Food waste
- Animal waste
- Grit or screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids
- Any mixture of the wastes referred to above.

#### 1.6 General solid waste (non-putrescible)



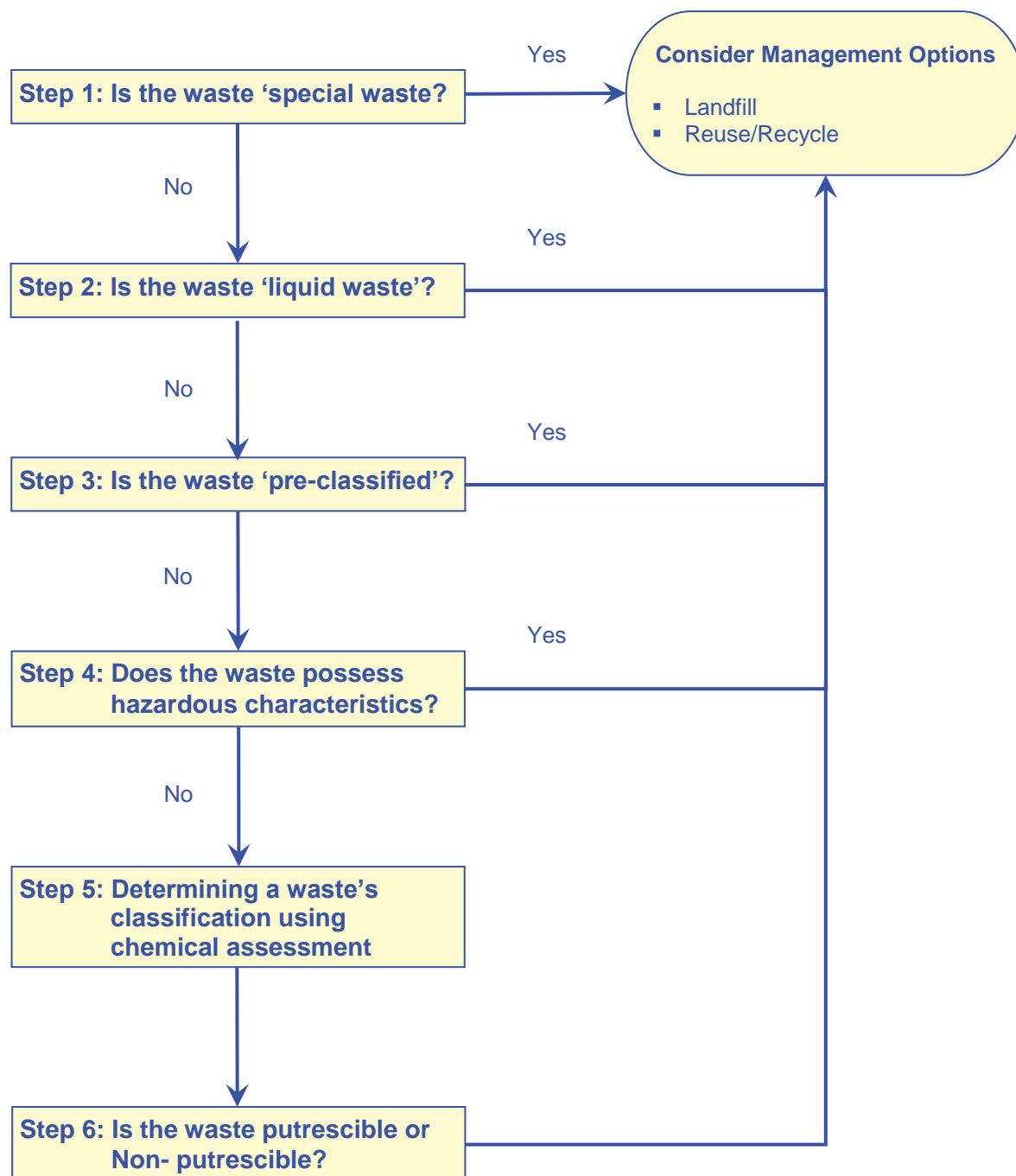
- Glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal
- Paper or cardboard
- Household waste from municipal clean-up that does not contain food waste
- Waste collected by, or on behalf of, local councils from street sweepings
- Grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems that have been dewatered so that they do not contain free liquids
- Grit and screenings from potable water and water reticulation plants that have been dewatered so that they do not contain free liquids
- Garden waste
- Wood waste
- Waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions
- Containers, previously containing dangerous goods, from which residues have been removed by washing or vacuuming
- Drained oil filters (mechanically crushed), rags and oil-absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids
- Drained motor oil containers that do not contain free liquids
- Non-putrescible vegetative waste from agriculture, silviculture or horticulture
- Building cavity dust waste removed from residential premises or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact
- Synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics) being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste
- Virgin Excavated Natural Material (VENM)
- Building and demolition waste
- Asphalt waste (including asphalt resulting from road construction and waterproofing works)
- Biosolids categorised as unrestricted use, or restricted use 1, 2 or 3, in accordance with the criteria set out in the *Biosolids Guidelines* (EPA 2000)
- Cured concrete waste from a batch plant
- Fully cured and set thermosetting polymers and fibre-reinforcing resins
- Fully cured and dried residues of resins, glues, paints, coatings and inks
- Any mixture of the wastes referred to above.

## 2.0 General classification principles

The following principles must be applied at all times when using the step-by-step waste classification process:

- Where practicable, it is desirable to separate a mixture of wastes before classifying them separately. For example, if waste tyres (special waste) are mixed with lead-acid batteries (hazardous waste), it would be desirable to separate the wastes so only the hazardous component needs to be managed as hazardous waste.
- If it is not possible to separate wastes, the whole waste must be classified according to the highest class of waste. For example, if clinical and related waste (special waste) is thoroughly mixed with municipal waste (general solid waste (putrescible)), the whole waste stream must be managed as special waste.
- If asbestos is mixed with other waste to form asbestos waste, the waste must continue to be assessed in accordance with these guidelines to enable the disposal of the asbestos waste at an appropriate waste facility. Asbestos waste must then be managed to meet the management and disposal requirements of both asbestos *and* the other class of waste with which it is mixed (if any).
- If liquid waste is mixed with hazardous or solid waste and retains the characteristics of liquid waste specified in Step 2 below, the waste remains liquid waste. Two or more classes of waste must not be mixed in order to reduce the concentration of chemical contaminants. Dilution of contaminants is not an acceptable waste management option.

### 2.1 Classification Process



### 3.0 Determining a waste's classification using chemical assessment

Waste should chemically assess their waste to determine its classification where:

- The waste is not special waste, liquid waste, a waste pre-classified by the EPA or a waste possessing hazardous characteristics, and
- The composition of the waste is not known.

### 3.1 Measurable properties of waste

The two measurable properties of chemical contaminants used to classify waste are:

- The specific contaminant concentration (SCC) of any chemical contaminant in the waste, expressed as milligrams per kilogram (mg/kg)
- The leachable concentration of any chemical contaminant using the toxicity characteristics leaching procedure (TCLP), expressed as milligrams per litre (mg/L).

### Summary of criteria for chemical assessment to determine waste classification

Waste Classification	Criteria for classification by chemical assessment (any of the alternative options given)	Comments
General solid waste	1. SCC test values $\leq$ CT1	
	2. TCLP test values $\leq$ TCLP1 and SCC test values $\leq$ SCC1	
	3. TCLP test values $\leq$ TCLP1 and SCC test values $>$ SCC1 and DECCW approves immobilisation	
Restricted Solid Waste	1. SCC test values $\leq$ CT2	TCLP test not required
	2. TCLP1 $<$ TCLP test values $\leq$ TCLP2 and SCC test values $\leq$ SCC2	
	3. TCLP test values $\leq$ TCLP2 and SCC1 $<$ SCC test values $\leq$ SCC2	
	4. TCLP1 $<$ TCLP test values $\leq$ TCLP2 and SCC test values $>$ SCC2 and DECCW approves immobilisation	Without DECCW approval of immobilisation, classify as hazardous
Hazardous Waste	1. TCLP test values $>$ TCLP 2	
	2. TCLP test values $\leq$ TCLP2 and SCC test values $>$ SCC2 and no DECCW approval for immobilisation	

### 3.2 Testing Frequency

There may be situations in which frequent testing of the waste for an initial period establishes that the characteristics of the waste are consistent enough to give confidence to reduce the frequency of testing.

On the other hand, some waste streams may show such large variations in properties that every load of waste would need to be tested before classification.

It is the responsibility of the waste generator to ensure that frequency of testing provides representative samples for all contaminants in that waste.

## Appendix B. **MSR22W-1 Waste Register**

## WASTE REGISTER

### Management System Register



Project/Site:

[illegible]

## Appendix C. **WI22W-1 Storage, Recycling & Disposal of Waste**

# Waste Management and Recycling Plan

Surface and Viaduct Civil Works



Waste Material	Classification	Estimated quantities	Management	Destination
<b>Contaminated soil</b>	General solid to hazardous	Unknown	In accordance with specialist advice	In accordance with specialist advice  Veolia Horsley Park Waste Management Facility, NSW 2175
<b>Contaminated Water / Liquids</b>	Liquid Waste	8000 kL	In accordance with specialist advice	In accordance with specialist advice  Veolia Horsley Park Waste Management Facility, NSW 2175  EnviroPacific, Seven Hills Waste Management Centre
<b>Concrete</b>	General solid	<3m <sup>3</sup> day	Separately stockpiled or placed in skips where possible	Reuse on site or concrete recycler  Grasshopper Group 12 Penelope Crescent, Arndell Park, NSW 2765
<b>Waste oil</b>	Liquid waste	20 litres/day	Decanted into drums located in bunded area. All contractors responsible for removal/treatment of own oil waste IBCs containing waste oil to be removed by specialist contractor	Waste oil recycler  EnviroPacific, Seven Hills Waste Management Centre
<b>Scrap metal</b>	General solid	1-2 tonnes / mth	Store in metal collections area in skips where possible	Metal recycling facility  Grasshopper Group 12 Penelope Crescent, Arndell Park, NSW 2765
<b>Empty drums (metal/plastic)</b>	General solid to hazardous	1-2 drums / mth	Empty drums stored upright with lids on in bunded storage areas until picked up by supplier or drum recycler. No rinsing to be undertaken on site	Return to supplier or drum recycler
<b>Batteries</b>	Hazardous waste	2-3 / mth	Store in containment area on trays.	Battery recycler
<b>Used absorbents, oil filters, oily rags, protective clothing</b>	General solid	1 bin / week	Bagged and stored separately in labelled bins for removal by waste contractors	Waste facility  Grasshopper Group 12 Penelope Crescent, Arndell Park, NSW 2765
<b>Contaminated</b>	General solid to	Unknown	Small quantities of soil contaminated through accidental	Appropriately licensed waste facility

# Waste Management and Recycling Plan

## Surface and Viaduct Civil Works



<b>soils (minor)</b>	hazardous		<p>spills will be excavated, classified and removed by authorized waste transporters to a facility that can lawfully accept such waste.</p> <p>Minor spills would be immediately cleaned up and contaminated soil temporarily stored in metal container with cover within bunded area for later removal as per above.</p>	<p>Veolia Horsley Park Waste Management Facility, NSW 2175</p>
<b>Asbestos</b>	Special waste	Unknown	Removed by licensed asbestos contractors. Not to be stored on premises	<p>Appropriately licensed waste facility Veolia Horsley Park Waste Management Facility, NSW 2175 EnviroPacific, Seven Hills Waste Management Centre</p>
<b>Cardboard</b>	General solid	7 bins /week	Stored in cardboard skips for removal by waste contractors	<p>Paper recycling facility  Grasshopper Group 12 Penelope Crescent, Arndell Park, NSW 2765</p>
<b>Plastic packaging, offcuts</b>	General solid	1 bin / week	Placed in general waste skip	<p>Waste facility  Grasshopper Group 12 Penelope Crescent, Arndell Park, NSW 2765</p>
<b>Wood pallets</b>	General solid	1 – 2 month	Store in designated area for pickup by supplier	Return to supplier
<b>Vegetation</b>	General solid	Unknown	Mulched for reuse in ERS&D controls (eg mulch bunds), revegetation etc, where prac. Weed species to be removed separately to appropriately licensed landfill	
<b>Demolition waste</b>	General solid	100 tonnes	Removed by licensed contractor (including asbestos where required) to licensed waste landfill for recycling / reuse (eg concrete, timber, bricks etc) where possible	<p>Waste / recycling facility  Grasshopper Group 12 Penelope Crescent, Arndell Park, NSW 2765</p>
<b>Office wastes</b>	General solid	2 skips / week	<ul style="list-style-type: none"> <li>Paper / cardboard</li> <li>Toner cartridges</li> <li>Food, general waste</li> </ul> <p>Recyclable cans, plastics, bottle etc; co-mingled recycling bins to be provided</p>	<ul style="list-style-type: none"> <li>Recycling facility</li> <li>Supplier to recycle</li> <li>Waste facility</li> <li>Recycling facility</li> </ul> <p>Grasshopper Group 12 Penelope Crescent, Arndell Park, NSW 2765</p>



## Appendix D. **WI22W-3 Waste Tracking Requirements (NSW)**

# WASTE TRACKING REQUIREMENTS (NSW)

## Work Instruction



Wastes included in Table 1 must be tracked when transported within NSW or interstate. Wastes included in Table 2 need to be tracked when transported interstate only.

**Table 1 - Waste that must be tracked when transported within NSW or interstate**

Description	Waste code
Acidic solutions or acids in solid form	B100
Antimony; antimony compounds	D170
Arsenic; arsenic compounds	D130
Barium compounds (excluding barium sulphate)	D290
Basic solutions or bases in solid form	C100
Beryllium; beryllium compounds	D160
Boron compounds	D310
Cadmium; cadmium compounds	D150
Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230
Chlorates	D350
Chromium compounds (hexavalent and trivalent)	D140
Clinical and related wastes	R100
Cobalt compounds	D200
Containers and drums that are contaminated with residues of substances referred to in this list	N100
Copper compounds	D190
Cyanides (inorganic)	A130
Cyanides (organic)	M210
Encapsulated, chemically-fixed, solidified or polymerised wastes	N160
Ethers	G100
Filter cake	N190
Fire debris and fire wash waters	N140
Fly ash	N150
Halogenated organic solvents	G150
Highly odorous organic chemicals (including mercaptans and acrylates)	M260
Inorganic fluorine compounds excluding calcium fluoride	D110
Inorganic sulfides	D330
Isocyanate compounds	M220
Lead; lead compounds	D220
Mercury; mercury compounds	D120
Metal carbonyls	D100
Nickel compounds	D210
Non toxic salts	D300
Organic phosphorous compounds	H110
Organic solvents excluding halogenated solvents	G110
Organo halogen compounds—other than substances referred to in this Table or Table 2	M160
Perchlorates	D340
Phenols, phenol compounds including chlorophenols	M150
Phosphorus compounds excluding mineral phosphates	D360
Polychlorinated dibenzo-furan (any congener)	M170

# WASTE TRACKING REQUIREMENTS (NSW)

## Work Instruction



Polychlorinated dibenzo-p-dioxin (any congener)	M180
Residues from industrial waste treatment/disposal operations	N205
Selenium; selenium compounds	D240
Soils contaminated with a substance or waste referred to in this Table	N120
Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
Tellurium; tellurium compounds	D250
Thallium; thallium compounds	D180
Triethylamine catalysts for setting foundry sands	M230
Vanadium compounds	D270
Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known	T100
Waste containing peroxides other than hydrogen peroxide	E100
Waste from heat treatment and tempering operations containing cyanides	A110
Waste from manufacture, formulation and use of wood-preserving chemicals	H170
Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
Waste from the production, formulation and use of organic solvents	G160
Waste from the production, formulation and use of photographic chemicals and processing materials	T120
Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
Waste from the production and preparation of pharmaceutical products	R140
Waste mineral oils unfit for their original intended use	J100
Waste oil/water, hydrocarbons/water mixtures or emulsions	J120
Waste pharmaceuticals, drugs and medicines	R120
Waste resulting from surface treatment of metals and plastics	A100
Waste tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated naphthalenes, polychlorinated terphenyls and/or polybrominated biphenyls	M100
Waste of an explosive nature not subject to other legislation	T200
Zinc compounds	D230

**Table 2 - Waste that must to be tracked when transported interstate**

Description	Waste Code
Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100
Asbestos	N220
Containers and drums that are contaminated with residues of waste referred to in this Table	N100
Grease trap waste	K110
Sewage sludge and residues including nightsoil and septic tank sludge	K130
Soils contaminated with a substance or waste referred to in this Table	N120
Tannery wastes including leather dust, ash, sludges and flours	K140
Tyres	T140

Wool scouring wastes

K190

## Appendix E. **MSR22X-1 Imported material register**

## IMPORTED MATERIAL REGISTER

## Management System Register



Project:

[illegible]